



The Digital Skills Standard

ICDL PROFESSIONAL

BIG DATA

Syllabus 1.0



Syllabus Document

**Purpose**

This document details the syllabus for the Big Data module. The syllabus describes, through learning outcomes, the knowledge and skills that a candidate for the Big Data module should possess. The syllabus also provides the basis for the theory and practice-based test in this module.

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Big Data Module

This module introduces Big Data, a technology which relates to the management and analysis of sets of data that are typically too large for traditional data-processing software.

Module Goals

Successful candidates will be able to:

- Understand the term big data and its evolution, and recognise drivers behind its expansion.
- Recognise key aspects of big data relating to storage technologies, analysis, and visualisation.
- Recognise examples of big data implementation in a range of sectors.
- Identify considerations for adoption of big data, including investment, practical challenges, business potential, and ethical issues.
- Recognise steps for exploiting big data in a specific scenario or situation.

CATEGORY	REF.	TASK ITEM
1 What is Big Data	1.1	Define the term big data.
	1.2	Recognise key stages in the evolution of big data.
	1.3	Recognise key characteristics of big data like: volume, velocity, variety, variability, veracity, value.
	1.4	Identify trends driving the expansion of data like: online consumer and organisational activity, IoT.
	1.5	Recognise that technological change and innovation have increased the potential of big data for organisations.
2 The Big Data Environment	2.1	Recognise common big data storage technologies.
	2.2	Recognise common approaches to big data analysis.
	2.3	Recognise common approaches to big data visualisation.
3 Big Data in Practice	3.1	Recognise approaches to implementing big data in healthcare, insurance.
	3.2	Recognise approaches to implementing big data in manufacturing, logistics.
	3.3	Recognise approaches to implementing big data in eCommerce.
	3.4	Recognise approaches to implementing big data in public services and administration.

CATEGORY	REF.	TASK ITEM
4 Big Data Adoption	4.1	Recognise that big data analysis requires investment in resources and competences.
	4.2	Recognise challenges to big data analysis like data quality and consistency, system compatibility.
	4.3	Recognise that the potential of providing big data as a service, selling analysis.
	4.4	Recognise ethical considerations regarding big data analysis like: governance, data protection.
	4.5	Consider the steps for exploiting big data in a given scenario.